

REMARKS

In the Office Action, the Examiner objected to the drawings under 37 CFR 1.83(a). The Examiner objected to claims 1-10 for informalities. Claims 1-10 were rejected under 35 U.S.C. 112, second paragraph, as being too indefinite. Claims 1-6 and 10 were rejected under 35 U.S.C. 102(b) as being anticipated by Kakehi et al. in U.S. Patent No. 5,934,680. Claims 7-9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kakehi et al. in U.S. Patent No. 5,934,680 in view of Ruthenburg in U.S. Patent No. 3,784,215.

The present invention as defined in claim 1 is characterized in that the linear contact portion which is provided on one side of the separation portion, and the linear contact portion which is provided on the other side of the separation portion are located at a distance in a radial direction of the seal ring in order to control a quantity of leakage from a sealed fluid side to an unsealed fluid side.

According to the present invention as set forth in claim 1, "it is permitted to control the quantity of leakage of a sealed fluid by the size of a gap which is formed owing to the fact that the linear contact portions are provided at the diametric distance in the separation portion." (see page 8, line 9 to page 9, line 13 of the specification)

In contrast, the Examiner pointed to Figure 16 of Kakehi et al. Figure 16 relates to Figures 13 and 14 (see column 5, lines 27-28, column 10, lines 58-59). With respect to Figures 13 and 14, Kakehi et al. discloses the following:

Figure 13

“FIGS. 13A and 13B show the seal ring 50 of the tenth embodiment. It has a lubricant groove 52 in each sealing surface 51. Each lubricant groove 52 comprises a circumferential groove 63 extending over the entire circumference of the sealing surface 51 at its radially central portion, and radial grooves 64 and 65 extending radially outward and radially inward from the circumferential groove 63, respectively. The radial grooves 64 and 65 are provided offset circumferentially from each other.”
(see column 11, lines 34-42)

Figure 14

“In the 11th embodiment shown in FIGS. 14A and 14B, the radial grooves 64 and 65 of each lubricant groove 52 extend radially outward and radially inward from the same one point of the circumferential groove 63.” (see column 11, lines 43-55)

However, lubricant grooves 52 are not provided at a separation portion as shown in Figure 11A.

Accordingly, Kakehi et al. fails to disclose or suggest “said linear contact portion which is provided on one side of the separation portion, and said linear contact portion which is provided on the other side of the separation portion are located at a distance in a radial direction of the seal ring to control a quantity of leakage from a sealed fluid side to the unsealed fluid side” as defined in claim 1.

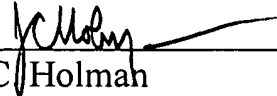
Also, the Ruthenburg patent fails to disclose or suggest such a feature as included in the invention as defined in amended claim 1. Thus, independent claim 1 is allowable and dependent claims 2-10 are also allowable.

Based on the foregoing amendments and remarks, it is respectfully submitted that the claims in the present application, as they now stand, patentably distinguish over the references cited and applied by the Examiner and are, therefore, in condition for allowance. A Notice of Allowance is in order, and such favorable action and reconsideration are respectfully requested.

However, if after reviewing the above amendments and remarks, the Examiner has any questions or comments, he is cordially invited to contact the undersigned attorneys.

Respectfully submitted,

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IN THE DRAWINGS:

A Letter to the Official Draftsman is attached with proposed drawing corrections to Figures 34 through 39.

The attached sheets of drawings include changes to Figures 34 through 39. These sheets, which includes Figures 34 through 39, replace the original sheets of Figures 34 through 39.



31/33

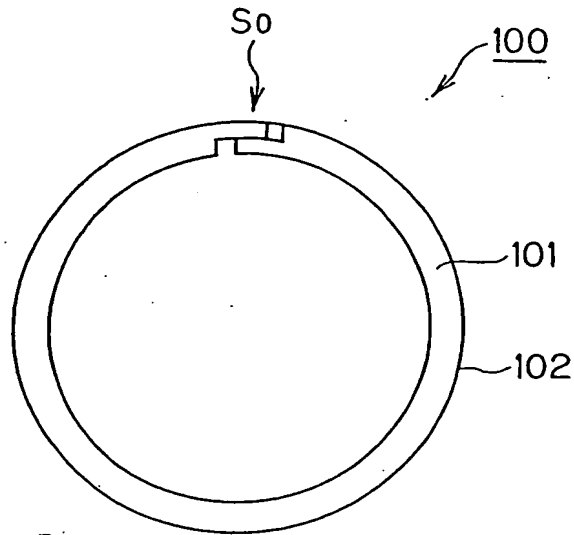


FIG. 34
PRIOR ART

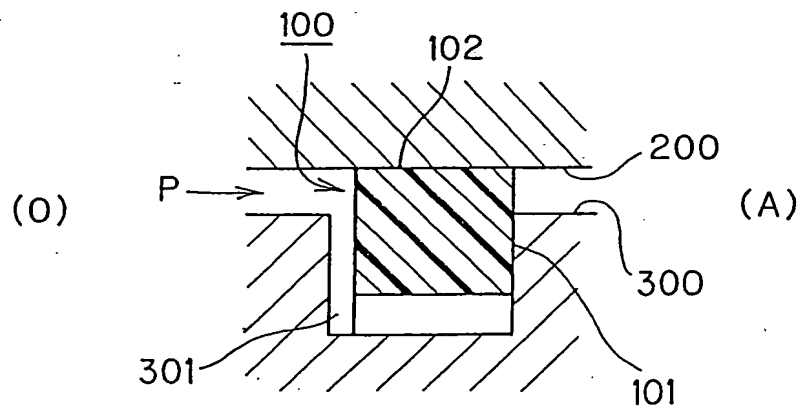


FIG. 35
PRIOR ART

32/33

FIG. 36A
PRIOR ART

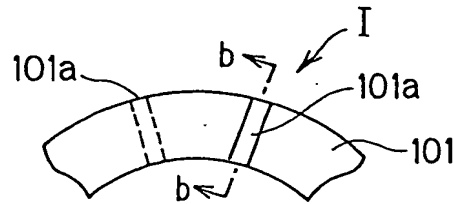


FIG. 36B
PRIOR ART

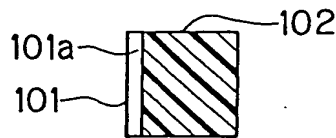


FIG. 36C
PRIOR ART

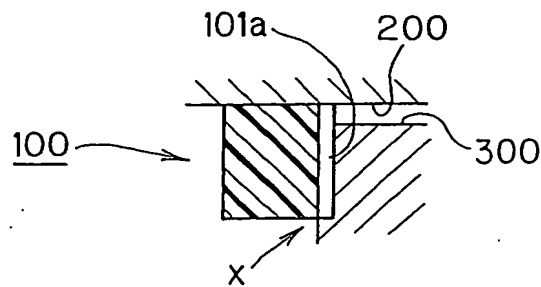
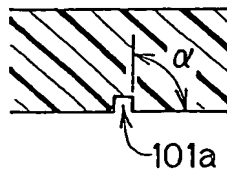


FIG. 37

33/33

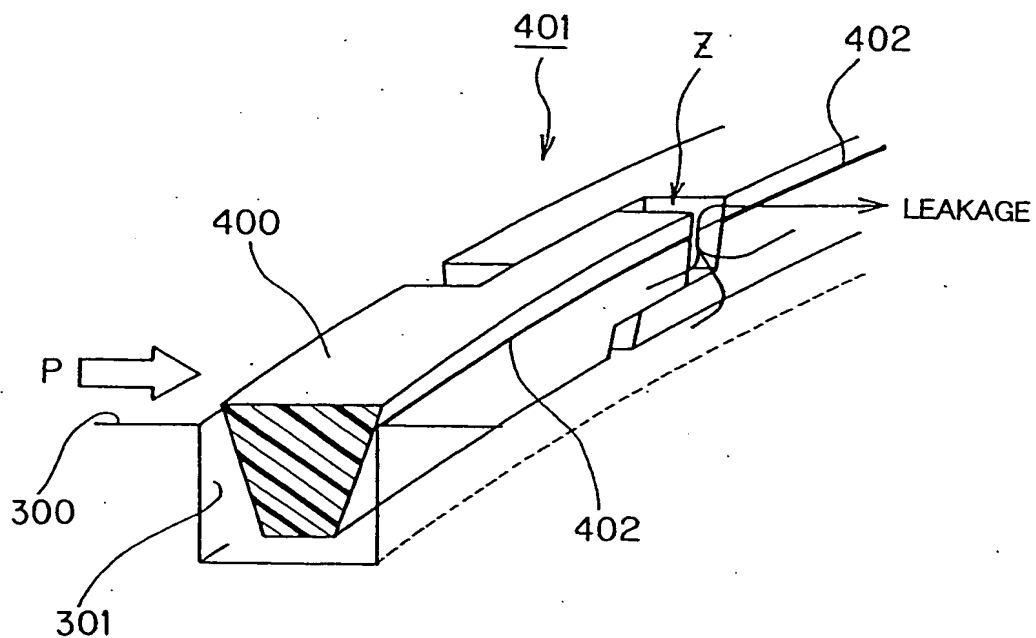


FIG. 38

PRIOR ART

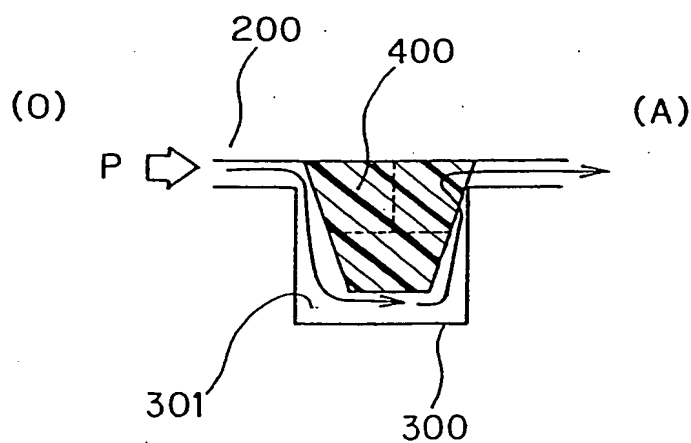


FIG. 39

PRIOR ART